


SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers [1a,b] TRADE NAME(s)	Aculon NanoProof 8.0	1.2 Relevant identified uses of the substance or mixture and uses advised against [1c] CHEMICAL FAMILY/ APPLICATION/ RESTRICTIONS	Chemical Mixture Coating Solution
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<p>1.3 Details of the supplier of the safety data sheet</p> <div style="text-align: center;">  <p>ACULON [1D]</p> <p>11839 Sorrento Valley Road Suite 901 San Diego, CA 92121 phone 858-350-9474 fax 858-350-9422 Email: support@aculon.com www.aculon.com</p> </div>	<p>1.4 Emergency telephone number</p> <p style="text-align: center;">Emergency Telephone Number [1E]</p> <p style="text-align: center;">Chemtrec CCN696855 1-800-424-9300 (US/Canada) +1-703-527-3887 (International)</p> <p style="text-align: center;">Revision Date: 10/3/16</p>
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SECTION 2: Hazards identification

[2A] **GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

2.1 Classification of the substance or mixture

Flammable liquids (Category 2), H225
Skin irritation (Category 2), H315
Reproductive toxicity (Category 2), H361
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336
Specific target organ toxicity - repeated exposure (Category 2), H373
Aspiration hazard (Category 1), H304
Acute aquatic toxicity (Category 2), H401

2.2 Label elements Labelling according Regulation (EC) No 1272/2008

[2B] **LABELING ELEMENTS, Hazard, and Precautionary Statements**

Signal word: **Danger** Pictogram(s):



Hazard statement(s):

H225 Highly flammable liquid and vapour.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H336 May cause drowsiness or dizziness.
 H361 Suspected of damaging fertility or the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H401 Toxic to aquatic life.

Precautionary statement(s)

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
 P233 Keep container tightly closed.
 P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
 P264 Wash skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P331 Do NOT induce vomiting.
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P403 + P235 Store in a well-ventilated place. Keep cool.
 P405 Store locked up.
 P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

[2C] **HAZARDS NOT OTHERWISE CLASSIFIED:** none.

[2D] **INGREDIENTS OF UNKNOWN ACUTE TOXICITY \geq 1%:** none

SECTION 3: Composition/information on ingredients

Hazardous ingredients according to Regulation (EC) No 1272/2008 and 29 CFR 1910 (OSHA HCS)

Component	Classification	Concentration
Toluene		
CAS-No. 108-88-3 EC-No.203-625-9 Index-No.601-021-00-3 Reach: 01-2119471310-51-xxxx	Flam. Liq. 2; Skin Irrit. 2; Repr. 2; STOT SE 3; STOT RE 2; Asp. Tox. 1; Aquatic Acute 2; H225, H304, H315, H336, H361, H373, H401	87 – 94%
Proprietary polymer: This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200		
CAS-No. n/a EC-No. n/a Index-No. n/a	n/a	10 – 11%

* The specific chemical identity and/or percentage of this material has been withheld as a trade secret.

SECTION 4: First aid measures

4.1 Description of first aid measures	
General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
^[4a] INHALATION	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
^[4a] SKIN CONTACT	Wash off with soap and plenty of water. Consult a physician.
^[4a] EYE CONTACT	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
^[4a] INGESTION	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
^[4b] MOST IMPORTANT SYMPTOMS & EFFECTS	The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11
^[4c] INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	no data available

SECTION 5: Firefighting measures

^[5a] 5.1 Extinguishing Media/SUITABLE/ UNSUITABLE EXTINGUISHING MEDIA	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
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<p>^[5b] 5.2 SPECIFIC HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE (IE HAZARDOUS COMBUSTION PRODUCTS)</p>	<p>Burning may form Carbon oxides. Use water spray to cool unopened containers.</p>
<p>^[5c] 5.3 ADVICE FOR FIREFIGHTERS/ PRECAUTIONS / SPECIAL PROTECTIVE EQUIPMENT</p>	<p>Wear self contained breathing apparatus for fire fighting if necessary.</p>
<p>5.4 FURTHER INFORMATION</p>	<p>Use water spray to cool unopened containers.</p>

SECTION 6: Accidental release measures

<p>^[6a] 6.1 PERSONAL PRECAUTIONS, PPE, EMERGENCY PROCEDURES</p>	<p>Use personal protective equipment. Avoid breathing vapours. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.</p>
<p>6.2 Environmental precautions</p>	<p>Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.</p>
<p>^[6a] 6.3 METHODS & MATERIALS FOR CONTAINMENT & CLEANING UP</p>	<p>Contain spillage, wipe up any liquid and place in container for disposal according to local regulations (see section 13).</p>
<p>6.4 REFERENCE TO OTHER SECTIONS</p>	<p>For disposal see section 13.</p>

SECTION 7: Handling and storage

<p>^[7a] 7.1 PRECAUTIONS FOR SAFE HANDLING</p>	<p>Avoid contact with skin and eyes. Avoid inhalation of vapour. Keep away from sources of ignition - No smoking. For precautions see section 2.2.</p>
<p>^[7b] 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES</p>	<p>Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be used immediately before they dry out. Use explosion-proof equipment. Take measures to prevent the build up of electrostatic charge.</p>
<p>7.3 SPECIFIC END USES</p>	<p>Apart from the uses mentioned in section 1.2 no other specific uses are stipulated</p>

SECTION 8: Exposure controls/personal protection

8.1 CONTROL PARAMETERS: COMPONENTS WITH WORKPLACE CONTROL PARAMETERS				
[8a] COMPONENT	CAS#	PEL/ TWA/ STEL	CONTROL PARAMETERS	BASIS (ACGIH, OSHA ETC)
Toluene	108-88-3	STEL	150 ppm 375 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	100 ppm 375 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	200 ppm	USA. Occupational Exposure Limits (OSHA) - Table Z-2

[8b] 8.2 EXPOSURE CONTROLS/ VENTILATION / ENGINEERING CONTROLS	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
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PERSONAL PROTECTIVE EQUIPMENT

[8c] RESPIRATORY PROTECTION	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
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[8c] SKIN PROTECTION	<p>Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.</p> <p>Full contact Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)</p> <p>Splash contact Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use</p>
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[8c] EYE PROTECTION	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
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[8c] CLOTHING/BODY PROTECTION	Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
CONTROL OF ENVIRONMENTAL EXPOSURE	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

[9a] Appearance (physical state, color, etc.)	Liquid, Clear Colorless	[9j] Upper/lower flammability or explosive limits:	Lower: 1.2% UEL: 7%
[9b] Odor	aromatic	[9k] Vapor pressure	29.1 hPa (21.8 mmHg) at 20.0 °C (68.0 °F)
[9c] Odor threshold	no data available	[9l] Vapor density	no data available
[9d] pH	no data available	[9m] Relative Density	0.87 g/cm ³ at 25 °C (77 °F)
[9e] Melting point/freezing point	No data available	[9n] Solubility (in H₂O)	No data available
[9f] Initial boiling point and boiling range	110 - 111 °C (230 - 232 °F)	[9o] Partition coefficient: n-octanol/water	No data available
[9g] Flash point	4.0 °C (39.2 °F) - closed cup	[9p] Auto-ignition temperature	No data available
[9h] Evaporation rate	No data available	[9q] Decomposition temperature	no data available
[9i] Flammability (solid, gas)	no data available	[9r] Viscosity	no data available
		[9s] Explosive Properties	no data available
		[9t] Oxidizing Properties	no data available

9.2 Other safety information: No data available

SECTION 10: Stability and reactivity

[10a 10.1] REACTIVITY	no data available
[10b 10.2] CHEMICAL STABILITY	Stable under recommended storage conditions..
[10c 10.3] POSSIBILITIES OF HAZARDOUS REACTIONS	Vapors may form explosive mixture with air.
[10d 10.4] CONDITIONS TO AVOID	Ignition sources, excess heat, sparks
[10e 10.5] INCOMPATIBLE MATERIALS	Strong oxidizing agents. May damage some forms of plastics with prolonged exposure.
[10f 10.6] HAZARDOUS DECOMPOSITION PRODUCTS	Other decomposition products - no data available In the event of fire: see section 5

SECTION 11: Toxicological information

[11a] LIKELY ROUTES OF EXPOSURE	INHALATION: is not expected if proper ventilation or personal protective equipment is used while working with this product
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	<p>INGESTION: Ingestion is not expected if proper industrial hygiene practices are followed, including no eating, drinking, or smoking while working with chemicals SKIN: is not expected if proper personal protective equipment (gloves and protective clothing) is used while working with this product EYE CONTACT: is not expected if proper personal protective equipment (safety glasses or goggles) is used while working with this product</p>
<p>^[11b] SYMPTOMS RELATED TO PHYSICAL, CHEMICAL & TOXIC CHARACTERISTICS</p>	<p>INHALATION: May cause irritation INGESTION: no data available SKIN: Skin corrosion/irritation: Skin - rabbit; Result: skin irritation EYE CONTACT: May cause irritation</p>
<p>^[11d] DELAYED / IMMEDIATE EFFECTS, CHRONIC EFFECTS FROM SHORT/LONG TERM EXPOSURE</p>	<p>Reproductive toxicity: Data based on Toluene: Damage to fetus possible Suspected human reproductive toxicant Reproductive toxicity - Rat - Inhalation Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count). Experiments have shown reproductive toxicity effects in male and female laboratory animals. Developmental Toxicity - Rat - Oral Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).</p> <p>Specific target organ toxicity - single exposure: No data available Specific target organ toxicity - repeated exposure: no data available Aspiration hazard: no data available</p>
<p>^[11D] NUMERICAL MEASURES OF TOXICITY</p>	<p>ACUTE TOXICITY ESTIMATES: none known</p> <p>Acute toxicity LD50 Oral - Rat - > 5,580 mg/kg LC50 Inhalation - Rat - 4 h - 12,500 - 28,800 mg/m3 LD50 Dermal - Rabbit - 12,196 mg/kg</p> <p>SKIN CORROSION/IRRITATION Skin - Rabbit Result: skin irritation - 24 h</p> <p>Serious eye damage/eye irritation Eyes - Rabbit Result: No eye irritation (OECD Test Guideline 405)</p> <p>Respiratory or skin sensitization No data available</p> <p>Germ cell mutagenicity Rat Liver DNA damage</p>
<p>^[11e] CARCINOGENICITY</p>	<p>IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.</p>

	OSHA: No component of this product present at levels
ADDITIONAL INFORMATION	Toluene: RTECS: XS5250000 Lung irritation, chest pain, pulmonary edema, Inhalation studies on toluene have demonstrated the development of inflammatory and ulcerous lesions of the penis, prepuce, and scrotum in animals., Central nervous system Stomach - Irregularities - Based on Human Evidence Stomach - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

[12a 12.1] ECOTOXICITY	Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 7.63 mg/l - 96 h NOEC - Pimephales promelas (fathead minnow) - 5.44 mg/l - 7 d Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 8.00 mg/l - 24 h Immobilization EC50 - Daphnia magna (Water flea) - 6 mg/l - 48 h Toxicity to algae EC50 - Chlorella vulgaris (Fresh water algae) - 245.00 mg/l - 24 h EC50 - Pseudokirchneriella subcapitata (green algae) - 10.00 mg/l - 24 h
[12b 12.2] PERSISTENCE AND DEGRADABILITY	Toluene is readily biodegradable The polymer is not expected to biodegrade
[12c 12.3] BIOACCUMULATIVE POTENTIAL	No data available
[12d 12.4] MOBILITY IN SOIL	No data available
12.5 RESULTS OF PBT AND vPvB ASSESSMENT	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
[12e 12.6] OTHER ADVERSE EFFECTS (OZONE LAYER ETC.)	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toluene is toxic to aquatic life.

SECTION 13: Disposal considerations

[13] Contact a licensed professional waste disposal service.
Contaminated Packaging Disposal: Contact a licensed professional waste disposal service.

SECTION 14: Transport information

	14.1[a] UN	14.2[b] UN	14.3[c] Transport	14.4[d]	14.5[e]
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	number	proper shipping name	hazard class(es)	Packaging group	Environmental hazards
ADR/RID:	UN1993	Flammable Liquid, nos (Toluene)	3	II	
IMDG:	UN1993	Flammable Liquid, nos (Toluene)	3	II	EMS-No: F-E, S-D
IATA:	UN1993	Flammable Liquid, nos (Toluene)	3	II	
US DOT	UN1993	Flammable Liquid, nos (Toluene)	3	II	RQ 100 lbs
14.6 Special precautions for user	none				

^[14d] ENVIRONMENTAL HAZARDS	Marine Pollutant: no
^[14f] BULK TRANSPORT (MARPOL 73/78/IBC CODE)	IMDG: NOT APPLICABLE
^[14g] SPECIAL PRECAUTIONS	none known

SECTION 15: Regulatory information

EU	
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.	
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	No data available
15.2 Chemical Safety Assessment	For this product a chemical safety assessment was not carried out

US

TSCA	The components in this mixture are listed on the US inventory.
OSHA	This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard.
SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

The following components are subject to reporting levels established by SARA Title III, Section 313	Toluene: CAS-No. 108-88-3 Revision Date 2007-07-01
Sara 311/312 Hazards	Fire Hazard, Acute Health Hazard, Chronic Health Hazard
Massachusetts Right To Know Components	Toluene: CAS-No. 108-88-3 Revision Date 2007-07-01
Pennsylvania Right To Know Components	Toluene: CAS-No. 108-88-3 Revision Date 2007-07-01
New Jersey Right To Know Components	Toluene: CAS-No. 108-88-3 Revision Date 2007-07-01
California Prop. 65 Components	This product contain a chemical known to State of California to cause cancer, birth defects, or any other reproductive harm. Toluene: CAS-No. 108-88-3 Revision Date 2007-07-01

SECTION 16: Other information

Revision Date: 10/3/16 Original issue

Full text of H-Statements referred to under sections 2 and 3.
 Aquatic Acute Acute aquatic toxicity
 Asp. Tox. Aspiration hazard
 Flam. Liq. Flammable liquids
 H225 Highly flammable liquid and vapour.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H336 May cause drowsiness or dizziness.
 H361 Suspected of damaging fertility or the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H401 Toxic to aquatic life.
 Repr. Reproductive toxicity
 Skin Irrit. Skin irritation
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INFORMATION CONTAINED IN THIS SAFETY DATA SHEET IS FOR USE BY TECHNICALLY QUALIFIED PERSONNEL AT THEIR DISCRETION AND RISK. ALL STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED ON TESTS AND DATA WHICH WE BELIEVE TO BE RELIABLE, BUT THE ACCURACY OR COMPLETENESS THEREOF IS NOT GUARANTEED AND NO WARRANT OF ANY KIND IS MADE WITH RESPECT THERETO. SINCE THE COMPANY SHALL HAVE NO CONTROL OF THE USE OF THE PRODUCT DESCRIBED HEREIN, THE COMPANY ASSUMES NO LIABILITY OF LOSS OR DAMAGE INCURRED FROM THE PROPER OR IMPROPER USE OF SUCH PRODUCT.

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